CLAIMS

1. (Previously presented) A structural component of fiber-reinforced thermoplastic material comprising:

a shape-forming long-fiber-reinforced thermoplastic matrix and separate, single load-bearing plastified and consolidated continuous fiber strands with a thermoplastic matrix in a defined position within the structural component, the positions of the shape-forming long-fiber-reinforced thermoplastic matrix and the separate, single load-bearing plastified and consolidated continuous fiber strands with a thermoplastic matrix defining interfaces therebetween;

said continuous fiber strands being interconnected and having at least one load-transmitting flat internal connecting area between two continuous fiber strands;

wherein the single continuous fiber strands form a load-bearing supporting structure which is integrated in and thermoplastically bonded to the long-fiber-reinforced thermoplastic matrix at the interfaces therebetween.

2. (Previously presented) The structural component in accordance with claim 1, wherein the interfaces are designed as connecting layers, which form a transition zone between long-fiber matrix and continuous fiber strands.

3. (Previously presented) The structural component in accordance with claim 1, wherein the interfaces are designed as structured interfaces having uneven shapings.

4. (Previously presented) The structural component in accordance with claim 1, wherein the continuous fiber strands of the supporting structure form at least one closed mesh.

5. (Previously presented) The structural component in accordance with claim 1, wherein the

continuous fiber strands run in different directions and are thermoplastically bonded together at internal load-transmitting connecting areas in the manner of a framework.

6. (Previously presented) The structural component in accordance with claim 1, wherein the matrix material of the long-fiber reinforcement and of the continuous fiber strands are identical.

7. (Previously presented) The structural component in accordance with claim 1, wherein the matrices of the long-fiber-reinforcement and of the continuous fiber strands consist of polypropylene, polyamide, polyethylenetherephtalate, polybutylene-therephtalate, thermoplastic polyurethanes, polycarbonate, polyacrylics, polyimide, polyphenylsulphide or polyetheretherketone and that the reinforcing fibers of the continuous fiber strands consist of glass, carbon or aramide and the long-fiber reinforcement consists of glass.

8. (Previously presented) The structural component in accordance with claim 1, wherein the reinforcement of the long-fiber matrix has a fiber content of 15-25% by volume and that the continuous fiber strands have a fiber content of at least 40 % by volume.

9. (Previously presented) The structural component in accordance with claim 1, wherein the continuous fiber strands are twisted.

10. (Previously presented) The structural component in accordance with claim 1, wherein the continuous fiber strands are needle-bonded, wrapped or enveloped by a braided tube.

11. (Previously presented) The structural component in accordance with claim 1, wherein the long-fiber reinforcement has a great proportion of fibers with a length of at least 5 mm.

12. (Previously presented) The structural component in accordance with claim 1, wherein load-bearing inserts are integrated, which are directly connected with the continuous fiber strands.

13. (Previously presented) The structural component in accordance with claim 1, wherein further inlays are integrated, e.g., high-strength continuous fiber-reinforced tubular profile parts and/or local continuous fiber fabric inlays, which are connected with the continuous fiber strands and fused together with the long-fiber matrix.

14. (Previously presented) The structural component in accordance with claim 1, wherein the continuous fiber strands form "three-dimensional" profile cross sections.

15. (Previously presented) The structural component in accordance with claim 1, wherein external connecting areas of the continuous fiber strands are foreseen.

16. (Previously presented) The structural component in accordance with claim 1, wherein the layer thickness of the continuous fiber strands is at least as large as the layer thickness of the long-fiber matrix located above it.

17. (Previously presented) The structural component in accordance with claim 1, wherein the load-transmitting connecting areas are designed with a large surface area.

18. (Previously presented) The structural component in accordance with claim 1, wherein the connecting areas have a thin long-fiber intermediate layer.

19. (Previously presented) The structural body consisting of at least two structural components in accordance with claim 1, which structural components are connected to one another at external connecting areas of the continuous fiber strands.

20. (Previously presented) The structural body with at least two structural components in accordance with claim 1, which are designed as half-shells and are connected to one another and form a hollow profile girder.

21. (Withdrawn) Method for the manufacturing of a structural component in accordance with claim 1, characterized in that a plastified, long-fibre-reinforced plastic mass (2) is laid corresponding-to-form into an open, two-part form tool (51) in a press and that within the same cycle before and/or after the feeding-in of the long-fibre-reinforced mass (2) by means of a laying device (54) or of a transfer device (55) a preformed supporting structure (4a) with internal connecting areas (7) made of consolidated, plastified continuous fibre strands (3) is laid in the tool and formed or formed outside and transferred into the tool and by means of fixing means is held in place to such an extent, that with the pressing and closing of the form tool a desired supporting structure (4) of the continuous fibre strands (3) is produced and whereby with the pressing a thermoplastic bonding at the interface (6) between the long-fibre mass (2) and the continuous fibre strands (3) is produced.

22. (Withdrawn) Method in accordance with claim 21, characterized in that first the continuous fibre strands (3) are laid along a predefined laying path (39) into the lower mould half (51.1), thereafter the long-fibre-reinforced mass (2) is fed-in onto it and then the pressing takes place.

23. (Withdrawn) Method in accordance with claim 21, characterized in that the continuous fibre strands (3) for the forming of the preformed supporting structure (4a) are laid onto a transport mesh (31), fixed on it and subsequently transferred into the open form tool (51).

24. (Withdrawn) Method in accordance with claim 23, characterized in that first the long-fibre-reinforced mass (2) is laid into the form tool, thereafter the transport mesh (31) with the continuous fibre strands (3) is transferred into the open form tool and finally the pressing takes place.

25. (Withdrawn) Method in accordance with claim 21, characterized in that first the preformed supporting structure (4a) is formed and cooled down to such an extent, that it is non-deformable, subsequently transferred to the tool, fixed and if so required superficially heated up to such an extent, that during pressing it is completely thermoplastically bonded with the long-fibre mass

(2).

26. (Withdrawn) Method in accordance with claim 21, characterized in that first a first partial structure (4.1) made of continuous fibre strands is fixed in the tool, then the long-fibre mass (2) is fed in and pressed, subsequently heated up again and a second partial structure (4.2) made of continuous fibre strands is fed-in and with a second pressing process completely thermoplastically bonded.

27. (Withdrawn) Method in accordance with claim 26, characterized in that first continuous fibre strands (3.1) forming a partial structure (4.1) are laid into the lower mould half (51.1), thereafter the long-fibre mass (2) is fed-in and a first pressing takes place, whereupon press and form tool are opened again, on the long-fibre mass (2) a laying path for a second layer of continuous fibre strands is melted open on the surface by means of local heating, continuous fibre strands (3.2) forming a second partial structure (4.2) are laid on it and subsequently pressed and in doing so thermoplastically bonded with the long-fibre mass (2).

28. (Withdrawn) Method in accordance with claim 21, characterized in that first the beginning (3A) of a continuous fibre strand is fixed on the tool, subsequently laid under slight tension and its end (3E), again while maintaining a certain tension, is fixed on the form tool (51), e.g., by means of tensioning elements (80).

29. (Withdrawn) Method in accordance with claim 21, characterized in that several continuous fibre strands (3) with internal connecting areas, resp., cross-over area (7) are laid one after the other, so that a framework-like supporting structure (11) is produced.

30. (Withdrawn) Method in accordance with claim 21, characterized in that the continuous fibre strands (3) are pressed onto the mould by the laying device (54) dosed in such a manner, that the strands lie flat and assume the desired position and cross-sectional shape in the form tool. (5 1).

31. (Withdrawn) Method in accordance with claim 21, characterized in that the continuous fibre strands (3) , resp., the supporting structure (4) are at least partially, i.e., at the beginning (3A), at directional changes of the laying path and at the end (3E) melted (41) onto the mould.

32. (Withdrawn) Method in accordance with claim 21, characterized in that the continuous fibre strands (3) through contact with the cooler form tool (51) are solidified to such an extent, that they remain fixed during pressing and that they in doing so, however, on the other hand at their interfaces (6) completely fuse together again with the long-fibre mass (2).

33. (Withdrawn) Method in accordance with claim 21, characterized in that at least at the beginning (3A) and end (3E) or also within a continuous fibre strand in molten condition eyes (43) for fixation are melted-in by pressing and partial solidifying and that these formed ends (3A, 3E) after the laying of the continuous fibre strand (3) are superficially melted open again by the hot long-fibre molten mass.

34. (Withdrawn) Method in accordance with claim 21, characterized in that at least at the ends (3A, 3E) or also within the melted open continuous fibre strands holding elements (45) with plug-in holes (46) are melted open, which during the laying of the hot long-fibre mass (2) fuse together with it.

35. (Withdrawn) Installation (50) for the implementation of the method in accordance with claim 21, characterized by a long-fibre plastifying - and feeding device (52), a two-part form tool (51) in a press (56) and a continuous fibre strand plastifying device (53) with a laying device (54) or a transfer device (55) assigned to it as well as with a control system (57) for the co-ordinated in time controlling of the movement of the installation components and for the temperature conditioning, for the laying of the continuous fibre strands (3): resp., for the formation of a preformed supporting structure (4a) with internal connecting areas (7) and for the corresponding-to-form feeding-in of the long- fibre molten mass (2) as well as for the thermoplastic bonding (6) of continuous fibre strands (3) and long-fibre matrix (2) as well as by

assigned fixing means (61, 62, 66, 69, 75, 80) for the fixation of the continuous fibre strands (3) during the manufacturing process, so that the desired integrated supporting structure (4) results.

36. (Withdrawn) Installation in accordance with claim 35, characterized in that fixing - and tensioning elements like fixing pins (61) and deviating elements (62) for the continuous fibre strands are located on the lower half of the form tool (5 1.1).

37. (Withdrawn) Installation in accordance with claim 36, characterized in that the fixing pins and deviating elements are movable (63) and when the press (56) is closed are pushed against a pre-tensioning (65) by ihe upper mould half (51.2).

38. (Withdrawn) Installation in accordance with claim 36, characterized in that the fixing pins have a controlled drive (64) and are utilizable for removing the component from the mould.

39. (Withdrawn) Installation in accordance with claim 36, characterized in that the fixing - and tensioning elements (61, 80) are attached outside the structural component (1) to be manufactured, but inside the form tool (51).

40. (Withdrawn) Installation in accordance with claim 35, characterized in that the tool has shaping like channels (66) and steps (67), with which the laid continuous fibre strands (3) are held in place during pressing.

41. (Withdrawn) Installation in accordance with claim 40, characterized in that the shapings, i.e., the laying paths (39) in the tool arc thermally insulated (73), resp., conditioned (74).

42. (Withdrawn) Installation in accordance with claim 35, characterized in that the laying device (54) has guiding-, shaping- and pressing-on means, e.g., in the form of guide rollers (68) and pressure rollers (69).

43. (Withdrawn) Installation in accordance with claim 35, characterized in that a transport mesh (31) is foreseen for the laying of the continuous fibre strands of the supporting structure (4a) with an inlay mesh (32) in a transfer frame (33) for the transfer into the press, whereby the inlay mesh (32) after the pressing is integratable into the structural component (1) and the transfer frame is provided with a new inlay mesh for the next cycle.

44. (Withdrawn) Installation in accordance with claim 35, characterized in that a consolidation device (58) is assigned for the continuous fibre strands.

45. (Withdrawn) Installation in accordance with claim 35, characterized in that a heated store (59) for the continuous fibre strands is foreseen, froin which the cut-to-length consolidated continuous fibre strands (3) are taken, melted open and utilized for the formation of the supporting structure (4a).

46. (Withdrawn) Installation in accordance with claim 35, characterized in that a hot gas - and/or a protective gas conditioning (7 1) are/is foreseen.

47. (New) A structural component of fiber-reinforced thermoplastic material comprising:

a shape-forming, long-fiber-reinforced thermoplastic matrix and separate, single load-bearing plastified and consolidated continuous fiber strands with a thermoplastic matrix,

each in a defined position within the structural component, the positions of the shape-forming long-fiber-reinforced thermoplastic matrix and the separate, single load-bearing plastified and consolidated continuous fiber strand with a thermoplastic matrix defining interfaces there between;

said continuous fiber strands being interconnected and having at least one load-transmitting flat internal connecting area between two separate, single load-bearing continuous fiber strands

and where the separate, single load-bearing continuous fiber strands are forming a load-bearing supporting structure which is integrated in and thermoplastically bonded to the long-fiber-reinforced thermoplastic matrix at the interfaces therebetween.